Country Distance (COD): Development and Validation of a New Objective Measure

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Abstract

We propose a multidimensional and objective measure, Country Distance (COD), as a comprehensive measure of distance between countries. Although the literature has called for a measure like this, in particular to support international decision-making by SMEs, the research carried out so far has relied on measures of limited focus. We use Partial Least Squares (PLS) to develop the COD index and investigate the relative importance of its three dimensions: socio-economic development, physical, and cultural and historical distance. We externally validate the measure in an analysis of the international market selection decisions of a sample of SMEs and country-level export flows.

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Introduction

Cross-country differences in economic, political, social, cultural, linguistic, and other characteristics continue to hinder international expansion (Ghemawat 2001) and pose major challenges and obstacles to the international activities of small and medium sized enterprises (SMEs) (Arteaga-Ortiz and Fernández-Ortiz 2010; Leonidou 2004). Over time, a variety of constructs and measures of differences and distance between countries have been proposed to assess linguistic (West and Graham 2004), institutional (Kostova 1999), economic (Tsang and Yip 2007), geographical (for example, Dow 2000), cultural (Kogut and Singh 1988), and psychic (Johanson and Wiedersheim-Paul 1975) aspects of distance. Many of these measures, however, focus on a single dimension of cross-country variation, draw on data sources covering only a small number of countries, or use subjective measurements, all of which limits their validity beyond the empirical context in which they are obtained. Given the importance of the distance factor in SMEs' international behavior, the lack of a multidimensional and objective measure of distance between countries is surprising. But, how can we build a comprehensive, reliable and valid measure of country differences that accounts for critical aspects affecting firms' international expansion? In answering this question, this paper fills a research gap by proposing a multidimensional index, Country Distance (COD), as an inclusive and objective measure of distance between countries based on reliable and valid constructs and publicly-available data sources.

In other words, our contribution is the development of a multidimensional index of objective country distance that can support decision-makers with various international decisions. Since further insight is also required into the magnitude or weight of the country distance dimensions, we also contribute by investigating the relative importance of the different dimensions of COD in two different empirical contexts. We externally validate the measure in an analysis of the international market

selection (IMS) decisions of a sample of SMEs and strengthen this validation by also analyzing its impact on country-level export flows.

In what follows, we first identify the theoretical framework and review the literature and the key constructs of distance between countries used in previous research. We then propose a definition of country distance and develop an index to measure it. Subsequently, we perform tests to validate the index. We conclude with a discussion of our findings and the implications of our study for practice and research.

Literature Review

Distance Means Trouble

Despite the globalization process that continues to reshape the world – reducing barriers and obstacles to international activities – differences between countries keep being relevant for firms and must be considered throughout their internationalization process. Indeed, "Distance still matters, and companies must explicitly and thoroughly account for it when they make decisions about global expansion" (Ghemawat 2001: 138). The literature acknowledges that distance between countries involves risks for managers and greater uncertainty and costs for firms operating in foreign markets (Malhotra, Sivakumar, and Zhu 2009). Research has further shown that greater distance brings about communication difficulties and other problems leading to below-average export performance (Kuivalainen, Sundqvist, and Servais 2007).

In particular, SMEs are confronted with challenges related to differences between countries in their internationalization (Lee and Jang 1998), due, among other things, to their limited resources and capabilities (Karagozoglu and Lindell 1998) and international experience (Lu and Beamish, 2006). These differences are found to affect even entrepreneurial firms such as international new ventures (Fan and Phan 2007; Hashai and Almor 2004), which follow an early internationalization process. Systematic market research, selection and targeting, however, is found to improve SMEs' success in internationalization (Brouthers and Nakos 2005; Knight 2000). Measures and systematic comparisons

of cross-country differences can therefore support SMEs and entrepreneurs in their managerial decision-making.

Measuring Distance

Prior research has not fully investigated the dimensionality of the concept of distance. Although a few studies explore and define different dimensions (Child, Rodrigues, and Frynas 2009; Dow and Karunaratna 2006; Dow and Larimo 2009; Ghemawat 2001; Malhotra, Sivakumar, and Zhu 2009), none has developed a multidimensional country distance index. Others (see Brewer 2007a) work with a limited number of countries, assume equal importance of the distance-creating indicators or do not follow suggested procedures for the development of formative measures: content specification, indicator specification, investigation of indicator collinearity and external validation (see Diamantopoulos and Winklhofer 2001).

The literature has also discussed the issue of whether to use objective indicators, subjective (perceptual) indicators, or a mixture of both to measure distance. By objective indicators, we mean measures that are based on factual data (regardless of the thoughts or feelings of respondents), while we refer to subjective measures as those based on the knowledge and perceptions of survey-respondents (that is, when researchers have asked respondents to make their own assessment of the distance between countries). For example, a measure can use the real differences in GDP per capita between two countries from a data source such as the United Nations (objective indicator) or a manager's perception regarding the differences in GDP per capita between the same countries (subjective).

Cultural distance. One of the most widely-used country-difference constructs in the international business literature, cultural distance (Drogendijk and Slangen 2006; Shenkar 2001), is however of limited relevance to our purposes since it measures only one dimension of total distance between countries and is largely based on cultural value data, which are only available for a restricted number of countries. The most employed measure of cultural distance, the Kogut and Singh index (1980), is calculated based on the cultural value dimensions of Hofstede (1980), and is therefore limited to the

countries included in that study. In this context, some researchers have developed alternative objective measures for this concept, such as linguistic distance (West and Graham 2004). We refrain from further discussion of this construct and its measurements, since we aim to develop a measure that includes more dimensions and is based on data available for more countries.

Psychic distance. The concept of psychic distance offers a better starting point, because it captures the range of differences between countries more comprehensively. It was introduced by Beckerman (1956) in research on international trade, and has been defined as "factors preventing or disturbing the flow of information between firms and markets" (Johanson and Wiedersheim-Paul 1975: 308). These factors were assumed to increase managers' uncertainty and their likelihood of misinterpreting information, thereby affecting the internationalization decisions made in firms (Johanson and Vahlne 1977).

In early empirical research, the psychic distance concept was operationalized through a number of indicators measuring differences between home and host country with respect to business language, national culture and language, and economic development and education. The absolute levels of economic development and education in the host country were included, as well as the existence of trading channels between home and host country (Vahlne and Wiedersheim-Paul 1977). Data were collected from publicly available statistics and experts in domestic business circles, and the resulting ranking was used in empirical studies. This measurement not only acknowledges the multidimensionality of psychic distance but also its roots in managerial perception (given that it asks experts to evaluate several of the dimensions). Later studies and definitions clarified the perceptual nature of psychic distance (Sousa and Bradley 2006), in contrast with the factors influencing managerial perceptions. Differences between countries, however, need to be measured beyond managerial perceptions.

More recently, a range of different methods (see Table 1) have been used to operationalize and measure this most comprehensive construct of distance, including panel-based ranking (Dow 2000; Ellis 2008; Nordström 1991), cognitive mapping (Stöttinger and Schlegelmilch 1998), and measures and indices based on a variety of secondary data sources, including cultural values studies (Brewer

2007a; Dow and Karunaratna 2006). Some of these approaches incorporate a perceptual element into the measurement of psychic distance, most notably, (panel-based) rankings and cognitive mapping. Whether based on expert evaluations (as in Dow 2000 and Nordström 1991; Ellis 2008), MBA students' (Håkanson and Ambos 2010), or managers' assessments (Lee and Jang 1998; Stöttinger and Schlegelmilch 1998), such approaches rank countries in terms of their "distance" from a baseline country. However, in general, they are not very helpful in identifying the dimensions and country differences underlying perceived psychic distance (Evans, Treadgold, and Mavondo 2000) or in assessing their relative impact. Thus, their usefulness is limited to their particular empirical context and does not extend to other empirical research settings to help in deciding which factors to include and measure in a multidimensional construct of country distance.

[Insert Table 1]

Other proposed measures of psychic distance, typically based on publicly-available statistics and cultural value studies, provide more scope for identifying the different factors of influence and distance between countries. Promising in this respect is for example the work by Brewer (2007a; 2007b) and Dow and Karunaratna (2006). Brewer (2007a; 2007b) stays close to the early conceptualization of psychic distance as the set of barriers to information flows between firms and markets (Johanson and Wiedersheim-Paul 1975). He develops a measure based on the factors influencing these flows rather than those defining country differences, which are the focus for most other research on psychic distance. He proposes seven formative dimensions, selects 15 indicators to measure them and constructs a psychic distance index between Australia and 25 other countries. Brewer's empirical testing reveals a positive link between psychic distance and market selection for Australian firms. However, as already stated, Brewer uses a relatively small number of countries in his study, which precludes the use of standard methods (such as SEM techniques) for the analysis of latent variables, and the external validation procedures indicated for index construction (see Diamantopoulos and Winklhofer 2001). Furthermore, in the absence of a theoretical argument for discriminating between them, Brewer accorded equal weight to all formative dimensions and their indicators in the

psychic distance index. From this index we can therefore not learn whether and how different dimensions affect the total distance between countries.

Dow and Karunaratna (2006) do offer some insights into the contribution of different factors to their measure of psychic distance stimuli (which they explicitly discriminate from perceived psychic distance). They distinguish seven dimensions that, according to the literature, are likely to represent psychic distance stimuli affecting the market selection decision, and measure these with multiple indicators using data from publicly-available statistics, as well as sociological constructs, such as Hofstede's (1980) cultural dimensions. Dow and Karunaratna estimate and validate the relationships between indicators and the respective dimensions using international trade data. They find that all dimensions, except the cultural dimension based on Hofstede, explain trade flows between countries. Problems with multicollinearity prevent them from drawing conclusions regarding the relative impact of the different dimensions of psychic distance stimuli. Although Dow and Karanuratna's (2006) work is seminal in identifying and collecting possible indicators and making them available to other researchers, much work remains to be done in order to identify the dimensions that affect distance between countries and more still to discover how they interrelate. In addition, the label "psychic distance stimuli" is closely linked to the perceptual concept of psychic distance. In our view, a clearer distinction is needed between measures of perceived and objective country distance. Therefore, we propose to introduce a separate label, "Country Distance" (COD), for a construct that captures exclusively the objective differences between countries.

Country Distance (COD)

Construct Development

Building on the psychic distance literature, but limiting ourselves to country aspects and dimensions of distance that can be measured using objective data sources, we introduce the construct of Country Distance (COD). We consider COD a multi-dimensional index (see Figure 1) and, in its development, follow the steps recommended by Diamantopoulos and Winklhofer (2001) for constructing formative measures. We start by specifying the content domain of the focal construct and

continue in later sections with the indicator specification, indicator collinearity analysis and external validity. Based on prior work developing related constructs of inter-country distance discussed above (in particular Brewer 2007a; Clark and Pugh 2001; Dow and Karunaratna 2006; Ghemawat 2001), we distinguish three original basic dimensions forming COD: socio-economic development distance (SED), physical distance (PHD) and cultural and historical distance (CHD). We assume these three dimensions to cause the latent construct "Country Distance" instead of reflecting its changes (Bollen 1989). It is appropriate to conceptualize Country Distance as a formative index since changes in any of its dimensions are expected to cause a variation in its value (Diamantopoulos and Siguaw 2006).[3] In addition, the dimensions are defining characteristics of the construct, they do not need to be interchangeable or to correlate, and they may have different nomological nets (Jarvis, Mackenzie and Podsakoff 2003).

[Insert Figure 1]

Socio-economic development distance (SED). We conceptualize SED as a "reflective first-order, reflective second-order" construct (Jarvis, Mackenzie and Podsakoff 2003: 205). In other words, we assume SED (the second-order construct) to be reflected in a number of dimensions (the first-order constructs), namely educational distance, political distance and economic development distance (see Figure 1). We further assume both second- and first-order constructs to be measured with reflective dimensions and indicators, respectively. The constructs included were mentioned as examples of factors influencing psychic distance in the early days of the development of the concept (Johanson and Wiedersheim-Paul 1975; Vahlne and Wiedersheim-Paul 1977), and have also been included in recent measurements of psychic distance factors (Brewer 2007a; Child, Ng, and Wong 2002; Dow and Karunaratna 2006) as well as other measures of distance between countries (for example, Clark and Pugh 2001; Ghemawat 2001; Tsang and Yip 2007).

Absolute levels of education and economic development influence the availability of information about a certain market and the ease with which information flows to potential investors

[3] Constructs with formative indicators are different from constructs with reflective measures, in which the indicators are caused by the latent variable. An excellent discussion of formative vs. reflective indicators can be found in Diamantopoulos and Siguaw (2006) and Jarvis, Mackenzie and Podsakoff (2003).

(Brewer 2007a; Dow and Karanuratna 2006; Johanson and Wiedersheim-Paul 1975). More information is likely to be collected in printed or electronic form and diffused among the public in markets with high levels of education and economic development than in markets that score low in these aspects. Education also influences the way in which people present information and their way of constructing arguments. Differences between the education levels and political systems of two countries can lead to confusion and uncertainty in the conveyance and interpretation of information (Dow and Karunaratna 2006). Likewise, higher levels of economic development and similarity of political systems guarantee less uncertainty in business agreements and transactions (Brewer 2007a; Ghemawat 2001). Differences in economic development may, furthermore, allow companies either to explore local resources (if the host country is more economically developed than the home country) or exploit company resources in the host market (when it is less economically developed than the home country) (Tsang and Yip 2007). Finally, differences in political systems and political instability make it difficult for investing firms to assess risks arising from government action (Henisz 2000a). Many researchers have only included indicators related to the level of economic development in their distance measurements, but Ghemawat (2001) also included administrative (or political) distance and conceptualized this as distinct and separate from economic distance. Dow and Karunaratna (2006), however, measured indicators addressing all three dimensions. In their study, these dimensions showed high correlation, reinforcing our decision to conceptualize them as composites of the same dimension: socio-economic development distance (SED). SED encompasses indicators of the level of education and (il)literacy, political systems and level of democracy, and economic development and welfare: all of which are linked to a society's social and political institutions.

Conceptualizing SED as a dimension that impacts firms' international decisions and activities is further in line with numerous examples on the role of this distance in expansions of Western firms into countries with lower levels of economic development or different political systems. Firms investing in Central and Eastern Europe in the early 1990s explained how the lack of developed financial and legal institutions to support effective markets slowed down their internationalization (see, for example, Peng and Heath 1996). There is also evidence showing that it is difficult for firms, in particular SMEs, to obtain the financial means for investing in underdeveloped capital markets in African countries

(Okeahalam and Wood 2009). Finally, firms have been reported to reconsider and adapt their international strategies when confronted with complex and unstable political systems, such as in the early years of transition in Central and Eastern Europe in the 1990s, in many African countries today (compare Meredith 2005), or when the state plays a dominant role in the economy, as in China for example (Luo 2001).

Physical distance (PHD). PHD is an original construct that captures two key magnitudes of physics: time and space. In other words, it not only includes geographical distance but also differences in time zones between countries. Geographical distance has frequently been used alongside measures of cultural or psychic distance and has been shown to relate positively to psychic distance and associated measurements (Brewer 2007a; Child, Ng, and Wong 2002; Clark and Pugh 2001; Dow 2000; Dow and Karunaratna 2006; Johanson and Wiedersheim-Paul 1975; Stöttinger and Schlegelmilch 1998). Despite geographical distance "decreasing" as a result of globalization and related processes, it is still a factor that undeniably affects firms' international decisions such as, for example, investment decisions (Ghemawat 2001). Temporal or time zone differences have been included less often as a factor influencing psychic distance (see for example Child, Ng, and Wong 2002; Dow and Karunaratna 2006). Differences in time zones can be said to increase uncertainty in the speed of communication (Dow and Karunaratna 2006) and may lead to delays, confusion and loss of accuracy when information travels and crosses (several) time zones. We therefore conceptualize PHD to encompass both space and time aspects.

Cultural and historical distance (CHD). We conceptualize CHD as another original reflective first-order, reflective second-order construct covering three dimensions: language distance, distance between religions, and colonial ties (see Figure 1). It is an undisputed fact that differences in language are among the factors that distort information flows and increase uncertainty regarding foreign markets (Brewer 2007a; Johanson and Wiedersheim-Paul 1975). Not speaking the same (native) language increases inefficiency and compromises clarity of communication, transfer and interpretation of information. Language has even been proposed as an objective proxy for cultural distance. West

and Graham (2004) demonstrate that linguistic distance shows high correlation with cultural distance measures based on value differences across nations such as the Kogut and Singh-index (Kogut and Singh 1988). Language similarity measures have also been employed by researchers engaged in the measurement of psychic distance and investigation of the factors that trigger it (Brewer 2007a; Dow and Karunaratna 2006). Religion also relates closely to and determines cultural differences: not only current numbers of religious practitioners, but also the influence of major religions on culture throughout history have shaped and continue to shape people's norms, values and behavior. Differences in religion can lead to misunderstanding, misinterpretation and disagreements, thus distorting information flows. Dow and Karunaratna (2006) were the first to incorporate differences between religions beyond the dummy level into their measure of psychic distance stimuli. Language and religion differences have also been used in prior conceptualizations of cultural distance (see for example Ghemawat 2001). Finally, the existence (or absence) of past colonial ties between countries strongly influences their current cultural links, in the sense that it may compress psychic distance (Child, Ng, and Wong 2002; Johanson and Wiedersheim-Paul 1975). The presence of colonial ties increases the knowledge that people in one country have of the other, allowing information to flow more easily between a firm and its foreign markets (Brewer 2007a). Colonial ties have been included in recent measurements of psychic distance denominators (Brewer 2007a; Dow and Karunaratna 2006). We conceptualize colonial ties as part of the CHD dimension of COD, because of the clear impact of colonial ties on language (Ethnologue 2008) and the strong relation between the two (Rauch 1999), also reflected in the high correlation of language and colonial ties (r = 0.65) reported in Dow and Karanuratna's (2006) work.

The challenges posed by language differences between countries are well-known from the popular press and can lead to blunders in international business, when firms translate product names and slogans into English (Ricks 1993), for example. However, researchers have also documented the difficulties of speaking different languages in international business situations and for non-native speakers of English having to use it as a common international language (for example. Welch, Welch, and Marschan-Piekkari 2001). From such examples we can conclude that speaking the same language is an obvious advantage for business across borders. As an example of the influence of differences in

religious practices that affect the activities of firms abroad, we can mention the different views of the Christian and Muslim religions with regard to paying interest. The various religions of the world also influence eating and drinking habits, and values regarding the roles of men and women in society and business.

Finally, prior studies have shown that measures of cultural differences based on Hofstede's dimensions are not appropriate denominators of psychic distance measures. Considering, furthermore, that Hofstede scores or, alternatively, scores based on Schwartz (1994) or the GLOBE study (House, Hanges, Javidan, Dorfman, and Gupta 2004), are sociological constructs measuring cultural values, rather than "objective" phenomena, we do not include them as a dimension. From an operative point of view, moreover, the inclusion of data from any of the aforementioned value studies seriously limits the number of countries, and thus the international diversity, that can be covered by a study of country distance. Instead, therefore, we propose that CHD is reflected in the three dimensions discussed above: language differences, differences between religions and the existence of colonial ties. CHD affects internationalization decisions because of its influence on information flows between markets, increased difficulties in communication, obstacles to international activities, and the level of uncertainty and risk perceived by managers involved in international business.

External Validation

We test the value of the COD index on two key variables related to the internationalization process of firms and national economies: international market selection (IMS) (Papadopoulos and Martín Martín 2011) by SMEs, and international trade. We conduct our analysis at country-level and examine whether the COD between a home country and a set of foreign countries increases the importance and frequency of the selection by SMEs of the markets (compare Brewer 2007a; Dow 2000) and boosts trade flows between the home and host countries (compare Dow and Karunaratna 2006).

Although other researchers have shown the impact of distance concepts on IMS (Brewer 2007a; Dow 2000), the attention given to this issue is relatively limited in comparison to the array of studies on others, such as the relationship of distance to entry modes or international marketing strategy

(Sousa and Bradley 2005). In accordance with the implications of research on the internationalization process of firms (Johanson and Vahlne 1977) and the results of prior empirical studies (Armario, Ruiz, and Armario 2008; Dow 2000), we expect a set of SMEs from a given home market to be more likely to select and expand into foreign markets at a shorter COD, that is, they will tend to export to countries that have fewer differences with their home market. According to the conceptualization of COD outlined above, country distance is increased by socio-economic differences, physical distance and the absence of cultural and historical ties. Greater COD causes information flow disturbance, creates difficulties in communication and obstacles to international activities, and results in higher uncertainty, all of which means that the greater the COD of a prospective host country, the less likely a firm is to select it to do businesses and expand internationally.

The second context in which we externally validate our COD measure is international trade. Trade or export flows provide a relevant context because differences between markets have been argued to influence firms' export decisions and thus affect aggregate trade flows between countries (Dow and Karunaratna 2006; Stöttinger and Schlegelmilch 1998). Prior work shows, without exception, that trade (or export) is negatively related to distance and related concepts (Beckermann 1956; Dow and Karunaratna 2006; Ghemawat 2001; Rauch 1999). Greater distance is argued not only to cause information flow disturbance and increased uncertainty (Vahlne and Wiedersheim-Paul 1977), but also to augment logistics costs (Ghemawat 2001; Limão and Venables 2001) and lower product competitiveness (Ghemawat 2001) when trading with remote countries.

The tests, presented below, on the effect of COD on IMS and export flows should be understood as external validations of the COD measure rather than attempts to explain the target constructs. In order to isolate the influence of our COD measure on each of these two dependent variables, we use market size as a control variable in our analyses. In other words, we partial out its effects on international market selection and export flows.

Methods

Selection of Baseline Country

The choice of Spain as the baseline country for both studies can, for several reasons, be considered one of the operative contributions of this paper. First, Spain is the ninth world economy (World Bank 2011) and can be said to have had a remarkable influence on the outlook of the world, having ruled other territories for centuries. This has led to the widespread use of the Spanish language and large Hispanic populations in South and North America. Our study sheds light on what this means for country distance and the market selection decisions of Spanish SMEs and Spanish foreign trade today. Second, its specific history makes Spain idiosyncratic in terms of the dimensions of our COD index. We expect Spain to show less (more) SED and more (less) CHD with respect to other European (Latin American) countries than to a number of Latin American (European) countries. Spain shares its language and a long history with 20 Latin American countries, which we expect will result in short CHD. It also shares much of its socio-economic development and political institutions with a broad range of European countries (most of them from other language and cultural clusters, see for example House et al. 2004) through its membership in the European Union. However, we do not yet know how this idiosyncrasy affects how these countries will score on an aggregate and multidimensional index of distance, or how it influences firms' international market selection decisions. Our data offer an excellent opportunity to investigate both these issues.

A total of 99 countries and their country distance to Spain were considered in the analyses. These 99 countries, selected on the basis of data availability, comprise countries from all continents and varying widely in terms of the COD dimensions (see Appendix 1 for a list). They include all the countries considered in Hofstede's study (1980) and 50 of GLOBE's 57 (House, Hanges, Javidan, Dorfman, and Gupta 2004), but also many other countries from regions of the world, such as the Arab peninsula, South-East Asia, South America and Africa, that are underrepresented in these studies and in all subsequent research based on them.

The COD Index: Operationalization

The development of the COD index is of prime interest to our study. We have already implicitly defined COD as the differences in socio-economic development, physical, and cultural and historical ties that contribute to the objective distance between countries. The resulting index fulfills a condition

that formative measures must satisfy, namely, that "the items used as indicators must cover the entire scope of the latent variable as described under the content specification" (Diamantopoulos and Winklhofer 2001: 271). The second stage in the construction of an index is indicator specification (Diamantopoulos and Winklhofer 2001). The three dimensions of the COD index are measured with seven first-order reflective constructs, all except one containing multiple indicators (see Table 2). We operationalize six of these seven constructs based on the measures developed by Dow and Karunaratna (2006). These indicators are described in detail in their seminal study and have been used in later research (see, for example, Dow and Larimo 2009).

[Insert Table 2]

SED from potential export countries to Spain is measured through the differences between Spain and the respective countries in terms of educational level (3 indicators), democracy as assessed by different established measures (4 indicators), and economic development, which is based on a range of economic and welfare indicators publicly available from international institutions, such as the United Nations (9 indicators, see Table 2). All of these 16 items demonstrated good metric properties when originally proposed by Dow and Karunaratna (2006) in their scales. Since SED is a second-order construct, we applied the "two-stage approach" to estimate the model (see, for example, Henseler, Wilson, Götz and Hautvast 2007; Papadopoulos and Martín Martín 2010). The "two-stage" approach is one of the Partial Least Squares (PLS)-based methods for estimating models with higher-order constructs. Basically, it offers a procedure in which first-order constructs are replaced by latent variable scores. Therefore, we will use latent variable scores (see Table 2) for the three first-order constructs of SED (and CHD).

Further, we follow Dow and Karanuratna (2006) to measure, as part of CHD, the distance between our baseline country, Spain, and the respective other countries in terms of religion(s) (three indicators reported to have good metric properties) and to establish the existence/absence of colonial ties (a dummy variable that takes the value "1" if Spain shares a post-1650 colonial link with the respective countries, see Barraclough 1988). To cover the language component, however, we refine and adapt existing measures of language differences. West and Graham (2004) calculated the number

of branches needed to connect two languages in the Ethnologue language tree (Gordon 2005; Grimes 1992) and Dow and Karunaratna (2006) developed the Ethnologue language family data into a five-point scale of language differences. In order to better and more fully capture the potential "distance between major languages" between each country analyzed and Spain, we include a sixth category ("Same second level sub-branch but different language") to measure this indicator. This is an important category for our study since there are significant languages (such as French, Portuguese and Italian) that belong to the same second level sub-branch as Spanish, a fact that would be overlooked if this category were not included.[4]

A second indicator of language differences is the 'Incidence of one country's major language(s) in other countries'. We follow Dow and Karunaratna (2006) in their coding, but employ an adapted definition, namely the number of native-language speakers, and use a more recent version of Ethnologue (Gordon 2005) as our data source. In this way, we expect to obtain a more accurate appraisal of the incidence of Spanish in Latin American countries that have their own native languages.

Finally, we measure physical distance using two indicators: a time-zone differential (Dow and Karunaratna 2006) and the geographical distance between Spain and the respective countries, operationalized as the number of kilometers between the capital cities (Clark and Pugh 2001).

Market Selection by SMEs

Our first validation study is based on primary data from a sample of SMEs.[5] SMEs are a particularly interesting firm category for testing the validity of our COD measure in the context of market selection, given the ample support from the literature for the existence of a relationship between distance and SMEs' internationalization (for example, Karagozoglu and Lindell 1998; Fan

[4] In other words, the distance between the two closest major languages for each pair of countries is as follows: 6 = Different families; 5 = Same family but different branches; 4 = Same branch but different first level sub-branch; 3 = Same first level sub-branch but different second level sub-branch; 2 = Same second level sub-branch but different language; 1 = Same language. For example, the distance between Spanish and English is "5" since both belong to the same family (Indo-European) but to different branches ("Italic" vs. "Germanic"), while the distance between Spanish and Italian or French is "2" since both share the second level sub-branch (Italo-Western) but they are different languages.

[5] We followed the European Commission Recommendation 2003/361/EC regarding the SME definition: enterprises qualify as small and medium-sized if they have less than 50 and 250 employees respectively and they meet either the turnover ceiling (less than Euro 10 and 50 million) or the balance sheet ceiling (less than Euro 10 and 43 million) but not necessarily both.

and Phan 2007; Hashai and Almor 2004; Lee and Jang 1998). From the census ("Catalogue of exporters") of these firms (we excluded micro-enterprises with less than ten employees), we drew a stratified random sample, containing exclusively regular exporters located in the Spanish region of Navarre. We designed a questionnaire that was first pretested and then slightly modified before being used to collect data by means of personal interviews with each firm's head of foreign operations. The interviews took between 45 to 90 minutes and all were held in Spanish. The participation rate was close to 65% of firms contacted. A test for the existence of non-response bias, made by comparing the number of employees (firm size) and export rates between respondents and non-respondents (both variables for which information was available in the "Catalogue of exporters"), showed no significant differences.

Usable data was collected for 170 SMEs, the majority (117, or 68.8%) small, and the remainder (53) medium-sized. The mean values of their assets amount to 7.54 million Euro and all are manufacturers in a variety of industries. On average, the sample firms have been operating for over 30 years, have been regular exporters for almost 13 years, and have entered close to 10 countries. Their exports account for 27.9% of their total sales (8.25 million Euros). France, Portugal, Germany, Italy and the UK ranked highest as export destinations for the SMEs in our sample.

We approach international market selection from a behavioral perspective and do not investigate the decision-making process itself, but rather its result (that is, in terms of markets selected and entered). In the questionnaire, therefore, we asked SME managers to name their four most important export markets and to indicate the relative size of their export activities in these markets (export intensity). In our validation test we used the sample firms' country selection frequency (how often a country is mentioned among the first four main foreign markets by all SMEs, compare Dow 2000) and the average percentage of export sales in those markets.

Export Flows

Our second validation study is based on secondary data from the "Foreign Trade Database" hosted by the Spanish Chambers of Commerce. Spain exports to over 200 countries, the top seven being France (19.5%), Germany (11.8%), Portugal (10.2%), the UK (9.0%), Italy (9.0%), the US

(4.3%) and The Netherlands (3.5%). In our validation tests, we used two related indicators: exports value (in millions of Euros) and number of export operations (number of shipments).

Control Variable

As stated, we included market size as a control variable in both validation tests. Market size has been widely used as an explanatory or control variable in previous studies of the effect of psychic and cultural distance on market selection (Clark and Pugh 2001; Dow 2000), trade (Dow and Karunaratna 2006) and sequence of market entry (Ellis 2008; Johanson and Wiedersheim-Paul 1975). We measure market size as the Gross Domestic Product (GDP) and Gross National Income (GNI), in millions of current USD, of the 99 countries included in our tests. We drew the data from the World Bank's World Development Indicators (WDI) online database.

Data Analysis Technique

The data are analyzed using Partial Least Squares (PLS) (Chin 1998), which is a variance-based SEM technique and second-generation multivariate analysis method (Fornell 1982). PLS is considered a powerful method of analysis because of its minimal demands in terms of measurement scales, sample size, and residual distributions. Besides, as formulated by Diamantopoulos and Winklhofer (2001: 274), "Given that PLS methodology has several attractive features (…) the use of PLS for index construction purposes seems to be a particularly interesting area for further research."

Results

The Country Distance Index

In keeping with general practice in PLS, we first present the features of the measurement model, including an assessment of the reliability and validity of the measures. We then present the structural model, including details of the significance of the relationships, the amount of variance explained for the endogenous constructs, and the model's predictive relevance. The external validity of the index is assessed by relating it to IMS and, subsequently, export flows.

The measurement model analysis provides support for our COD index and its operationalization: the results show high reliability and validity of the measures and constructs (Table 3). Firstly, all item loadings are well above the suggested acceptance limit of 0.70 (see column 2). Secondly, construct reliability, measured as the composite reliability of the multiple indicator-constructs (Werts, Linn, and Jöreskog 1974), also exceeds the recommended thresholds (see column 3), suggesting that each set of indicators is properly measuring the construct for which it is intended. Thirdly, the average variance extracted or AVE (Fornell and Larcker 1981) is well above the recommended acceptance criterion of 0.5 for all the reflective constructs, which means that the shared variance between the constructs and their indicators is much greater than the amount of variance due to their measurement error (Table 3, column 4). The comparison of bivariate correlations and square roots of the AVEs, presented in Table 4, shows that discriminant validity is also strictly upheld in our measurement model. Finally, the weights for the three dimensions forming Country Distance are significant ($p < 0.001$) with values equal to 0.56, 0.43 and 0.59 for SED, PHD and CHD, respectively, in the model explaining IMS. This indicates that SED and CHD make a slightly higher contribution to the index than PHD does in this model. Adopting a standard precaution when working with formative measures (Mathieson, Peacock, and Chin 2001), and as the third step in the construction of indices (Diamantopoulos and Winklhofer 2001), we test for multicollinearity, finding the highest Variance Inflation Factor (VIF) to be 1.098, which indicates that the measures are not affected by this potential problem. Similarly, the Tolerance measures are above 0.91, which is much higher than the recommended acceptance threshold of 0.1 (Hair, Anderson, Tatham, and Black 2006). Finally, after considering condition indices and variance proportions, we conclude that the results are not affected by multicollinearity. In light of the above, we can accept the Country Distance index as a valuable instrument built from reliable and valid measures.

[Insert Table 3]

[Insert Table 4]

Country Distance and SMEs' Market Selection

The structural model implies that the Country Distance between Spain and the 99 countries in our dataset is negatively related to the selection and expansion of Spanish SMEs in these 99 countries.

A 500 sub-sample bootstrap technique is used to test this negative relationship between COD and IMS. The bootstrapping procedure generates a requested number of random samples from an original data set by sampling with replacement (Efron and Tibshirani 1993). Path coefficients are estimated for each random sample, and mean parameter estimates and standard errors are computed across the total number of samples. These standard errors are used to estimate the significance of the parameters. The results of our analyses show that COD has a highly significant effect on IMS (see Figure 2) with a negative path value of 0.55 (t-value 7.17, $p < 0.001$). Furthermore, the variance explained by the model (R^2) is 0.41 for the endogenous variable, which shows that the Country Distance between Spain and the 99 potential export markets explains a large part of the variation in the dependent variable (0.33), while the control variable has a $\beta = 0.25$ (t-value 1.90, $p < 0.05$) and explains the remaining IMS variance (0.08). In addition, the Stone-Geisser Q^2 value (0.23) indicates that the dependent reflective construct has predictive relevance. This statistic was estimated using a 'blindfolding' technique with the omission distance set at 8. The blindfolding technique assesses the validity of the paths by repetitively estimating the model parameters with random data points omitted (hold-out samples). Finally, global goodness of fit (*GoF*), at 0.604, points to satisfactory overall quality of the measurement and structural models taken together (Tenenhaus, Esposito Vinzi, Chatelin, and Lauro 2005).

[Insert Figure 2]

In order to illustrate the COD index and its dimensions, Table 5 presents an overview of Country Distance between Spain and the fifteen top-ranking countries in the three separate dimensions and the final COD index score. We added the scores of the six main export countries (France, Portugal, Germany, the UK, Italy and the US) for the firms in our sample when they ranked lower. To facilitate an easier and more intuitive interpretation of the index, we converted the original latent variable scores to a scale of 1–100 applying the following accepted formula (see Cavusgil, Kiyak, and Yeniyurt 2004):

$$X'_{ij} = [[(X_{ij} - \min_i) / R_i] 99] + 1$$

Where X'_{ij} is the transformed value of country j for the dimension i; X_{ij} is the latent variable score of country j on dimension i; min_i is the minimum value for dimension i, and R_i is the range of dimension i.

The "nearest" to Spain, in terms of socio-economic distance, are Anglo-Saxon and Northern European countries: countries characterized, like Spain, by stable political and economic environments and comparable high levels of education and economic development. The fact that all six main export markets in our sample lie in the "nearest" quartile supports the earlier observation that this dimension has a strong impact on the market selection decisions of our Spanish SMEs.

[Insert Table 5]

Looking at cultural and historical distance (CHD), we find that a selection of Latin American countries have the shortest distance to Spain, lying even closer in this dimension than the neighboring Latin European countries of Italy, France and Portugal. The latter three and the USA (with its large Spanish-speaking population) also lie in the first quartile, thus supporting the important role played by CHD in COD. Finally, in terms of physical distance (PHD), five of the six main export markets are among the 18 nearest countries (only the USA is further away in terms of time and space). In the resulting COD index, all main export markets rank within the first 18 countries.

At the bottom ends of the rankings, not presented here, we find African countries to show the largest SED from Spain; Asian and Arab countries the largest CHD, and countries in the Pacific and South-East Asia the largest physical distance, resulting in high COD index scores for these countries.

Country Distance and Exports

In congruence with prior studies, we expect to find that COD is negatively related to export flows from the home country (in this case, Spain) to foreign countries. As already stated, we measure export flows by two indicators that capture a somewhat similar content as our IMS measure but now at the aggregate level: exports value (in millions of Euros) and number of operations. As in previous analyses, we use the SEM-PLS technique with market size as a control variable. The results (see

Figure 3) show a negative sign and a significant relationship between COD and Spanish export flows, β = -0.44 ($p < 0.001$). The observed effect of COD on the dependent variable is smaller than that found in the IMS model (β = -0.55), which, in accordance with our expectations, suggests that COD plays a larger role in explaining the export decisions of SMEs than it does in the country's aggregate exports. The export flows model presented in Figure 3 further shows that the analysis explains less of the variation in the dependent variable, R^2 = 0.31 (versus 0.41 in the IMS model). The control variable, market size, has a similar effect on both dependent variables: β = 0.26 in the export flows model (versus 0.25 in the IMS model). When considering the contribution of the three dimensions to COD in the export model, we observe that the contribution of CHD to COD is still significant but, at 0.28, less important than in the IMS model (where it is 0.59), while SED and PHD increase their weight in COD to 0.68 and 0.46 (versus 0.56 and 0.43), respectively. The implications of these findings are discussed in the final section of this paper.

[Insert Figure 3]

Discussion and Implications

We set out to fill an important gap in the literature, namely the lack of an inclusive measure of distance between countries, based on objective and publicly-available data, and suitable for use in a multitude of contexts and with regard to a large number of countries. We further identified a lack of knowledge on the dimensions of distance and how they contribute to country distance in different contexts. Our study bridges these gaps by making several contributions to existing insights regarding the impact of country distance on internationalization decisions, particularly international market selection and expansion decisions by SMEs. Firstly, we propose a multidimensional measure of distance between countries based on objective data, which we call Country Distance, or COD. This measure can be used by SME managers to visualize the importance of the difficulties they can expect to find when entering specific foreign markets. Secondly, our validation studies on the international market selection and expansion of a sample of Spanish SMEs and Spanish export flows shows the contributions of three formative dimensions to the COD index: socio-economic distance (SED),

physical distance (PHD) and cultural and historical distance (CHD). We find that these three contribute to COD consistently, but with different weights, depending on the empirical context, as we discuss below. This can help managers (particularly in SMEs, but also in larger companies) to appreciate the relative importance of the different factors creating distance and difficulties. Thirdly, our study supports prior work relating perceptual psychic distance to internationalization through its findings that COD has a negative impact on international market selection and expansion decisions in SMEs and on export flows at the national level. In addition, our study provides insights into the heterogeneity of COD in the context of Spain, a country with cultural and historical connections to parts of the world other than those to which it is geographically closer and more comparable in socio-economic terms.

Because many of our measurements are based on Dow and Karunaratna's work (2006), our study can be seen as supportive of their proposed measures for psychic distance stimuli when tested in a context of SME market selection choices and trade flows. The COD index developed here, however, has advantages over previous measures of psychic distance determinants, including widely-disputed measures of cultural distance based on Hofstede's (1980) dimensions. The proposed dimension of cultural and historical distance, which is not based on sociological constructs, such as Hofstede's or other value studies, shows both face and statistical validity. By excluding value studies, while still using more sophisticated measures than the dummy indicators or variables based on cultural blocks (Ronen and Shenkar 1985) employed in other studies (Clark and Pugh 2001; Dow 2000; Dow and Karunaratna 2006), we reinstate cultural differences as a valid dimension of distance between countries and an explanatory factor in international market selection and expansion. A partial explanation for the renewed support we find for the important role of cultural differences may be that our data are not limited to those potential export countries for which cultural dimension scores are available and our analyses, in fact, cover 99 countries (including a wide range of Eastern European, Asian, Latin American and African countries that other studies have neglected due to a lack of data). This presumably means that our models benefit from a better coverage of the existing cultural variation among countries across the world.

Our method further proved fruitful in exploring the relationships among the variety of factors that determine differences and distance between countries. We find that differences in level of education, economic development and political systems together are reflected in a dimension that we label socio-economic distance (SED). Likewise, cultural and historical distance (CHD) is visualized by the correlating factors of language and religious commonalities between countries, as well as past colonial ties. Physical distance (PHD), finally, is shown to be well reflected both in the often-employed measure of geographical distance and in the less-often used time zone differences. In contrast to other studies in which geographical distance was found to be a main denominator of IMS (Dow 2000; Dow and Karunaratna 2006), our results further showed that the foreign market activities of Spanish SMEs is driven less by physical distance than by cultural and historical and socio-economic distance, and that, in the context of export flows from Spain, cultural and historical distance plays a lesser role in Country Distance than the other two dimensions. Cultural and historical distance is thus a more important dimension of distance between countries in the context of market selection choices by SMEs than it is for aggregate export flows at the national level, which also include exports by larger organizations such as multinational corporations. Indeed, large firms account for the majority (56%) of Spanish exports (Arteaga-Ortiz and Fernández-Ortiz, 2010), which allows us to cautiously interpret the results in terms of the effect of firm size. Our findings, then, suggest that (i) country distance has more influence in the foreign market decisions of SMEs than in those of large firms (see Figures 2 and 3) and (ii) the importance of the dimensions varies, that is, CHD is more influential for SMEs, while SED gains importance as a denominator of export flows. We argue that it is the smaller size (and, presumably, more limited international experience) of the companies included in the IMS sample that accounts for the greater weight of CHD in their expansion decisions. Finally, PHD contributes to the measure more or less equally in both empirical contexts. However, this is the least important factor considered by SMEs, whose international market selection and expansion behavior are better explained by cultural and historical and socio-economic distances.

Managerial and Research Implications

Among the managerial implications of our study, we emphasize that it confirms prior research suggesting that SMEs' foreign market selection behavior is highly based on country distance. From the results presented here, managers of small and medium-sized firms can identify the factors underlying country distance, and observe their relative weight in IMS and export flows. The market selection behavior of our sample of SMEs was driven predominantly by the cultural and historical denominators of COD, followed by the socio-economic dimension and, only in the last instance, by physical distance. This means that SME managers still frequently select countries that are closer to them in cultural and historical aspects, suggesting that they find differences relating to these factors the most difficult to overcome. Therefore, in order to be able to select and expand in culturally- and historically-distant foreign markets, SME managers would not only need to acquire and develop the typical cross-cultural skills for international management, such as languages, but also increase their understanding of other distance-creating factors – reflected in our measure – such as local religions and national backgrounds.

The fact that cultural and historical factors are more important for SMEs than for larger firms emerges clearly when we compare the results for the SME sample with those for the whole census of firms and their export flows, where the key role is played by socio-economic aspects and cultural and historical issues are the least relevant (see Figure 3). These findings therefore suggest that cultural and historical differences are the main challenges firms have to face when their resources are scarce and when they are in their early stages of internationalization. The decreased importance of this dimension for larger firms suggests that experience and knowledge of foreign markets help to overcome the challenges posed by cultural and historical differences. Further, large firms seem to be more aware of the importance of (strategic) socio-economic factors for international business, suggesting that this dimension of distance offers the next 'stage of challenges' for firms accumulating international experience. This implies that SME managers first need to acquire and develop resources and capabilities such as cross-cultural skills and international business knowledge and experience before they are able to fully understand the importance and take into account the socio-economic factors affecting their market entry and expansion decisions.

Finally, our findings imply that SME managers (including those in early-internationalizing and entrepreneurial firms, such as international new ventures), can use multidimensional and objective measures of distance to (i) rank their potential target foreign markets in terms of the expected difficulties and barriers they are likely to find abroad and (ii) identify market differences that will increase the likelihood of export and international success in their first steps abroad. Such analyses are important aspects of the strategic decision-making processes of managers in general (compare Quinn, 1980) and in internationalization processes in particular (Brouthers and Nakos 2005; Knight 2000).

Public policy makers can infer from our findings that cultural and historical distance is still a major barrier to internationalization for SMEs, that it clearly affects SME managers' international decisions, and that programs designed to encourage export activities in this category of firms should reinforce perspectives on cultural and historical ties. Movements in that direction could be of enormous value to these firms, given that systematic market selection and targeting choices lead to improved performance in SMEs (Brouthers and Nakos 2005).

For the research community, the most important implication of our findings is that country distance can be measured using a multidimensional and comprehensive set of reliable and valid constructs, all based on publicly-available information and measured through objective indicators. Researchers can consider this measure as a complement to existing constructs of cultural and psychic distance and their denominators. Much work, admittedly, remains to be done to increase our understanding of the country distance concept and its measurement. Future research should, for example, test the validity of the COD index in other empirical contexts. Firstly, the COD index could be validated for Spanish flows other than exports, such as investment flows from and to Spain. Secondly, our focus on Spain as an empirical context obviously compromises the generalizability of the results and we suggest that the cross-national value of the Country Distance measure needs to be tested by calculating distances from other baseline countries. Our study has already contributed by providing a first test on a Latin (European) baseline country and sample, complementing insights gained from psychic distance studies using Australian samples (Dow 2000) and samples from Central and Northern Europe and the USA (Stöttinger and Schlegelmilch 1998) or data on trade flows between country pairs (Brewer 2007a; Dow and Karunaratna 2006). Studies of other country samples may

provide interesting insights into the idiosyncrasy of the impact and importance of COD dimensions. In addition, providing COD index scores for a large number of baseline countries would allow not only academicians but also managers and public policy decision-makers to visualize COD between their home country and potential host countries when making international decisions.

Another avenue for research will be to investigate the effect of firms' international experience on country distance, that is, the evolving impact of COD on international market selection and expansion as firms gain international experience, and the shifting weight of the different dimensions of COD in relation to firms' experience. In addition, dimensions and indicators of distance not considered in our conceptualization and operationalization (such as, for example, other institutional factors or intellectual property rights) offer potential to increase the comprehensiveness and accuracy of COD and may prove to be of great importance for managers in particular industries. Finally, new research could test the validity of the COD index in comparison to other measures of distance and its value in explaining a larger set of international strategic decisions, performance outcomes, and even constructs beyond these disciplinary borders. We expect COD to be of potential use in explaining a broad range of business and economic magnitudes (such as foreign investments at the firm and national level) and topics relevant to other social science disciplines, such as worker, student and tourist movements and flows, migrations, and numerous other issues involving origin and destination countries.

References

Armario, J.M., D.M. Ruiz, and E.M. Armario (2008). "Market Orientation and Internationalization in Small and Medium-Sized Enterprises," *Journal of Small Business Management* 46(4), 485–511.

Arteaga-Ortiz, J., and R. Fernández-Ortiz (2010). "Why don't we use the same export barrier measurement scale? An empirical analysis in small and medium-sized enterprises," *Journal of Small Business Management* 48(3), 395–420

Barraclough, G. (ed.) (1988). *Concise Atlas of World History*. London: Times Books.

Barrett, D.B. (ed.) (1982). *World Christian Encyclopedia*. Nairobi: Oxford University Press.

Beckerman, W. (1956). "Distance and the pattern of Intra-European trade," *Review of Economics and Statistics* 38(1), 31–40.

Bollen, K.A. (1989). *Structural Equations with Latent Variables.* New York: Wiley.

Brewer, P.A. (2007a). "Operationalizing Psychic Distance: A Revised Approach," *Journal of International Marketing* 15(1), 44–66.

Brewer, P.A. (2007b). "Psychic Distance and Australian Export Market Selection," *Australian Journal of Management* 32(1), 73–94.

Brouthers, L.E., and G. Nakos (2005). "The Role of Systematic International Market Selection on Small Firms' Export Performance," *Journal of Small Business Management* 43(4): 363–381.

Cavusgil, S.T., T. Kiyak, and S. Yeniyurt (2004). "Complementary approaches to preliminary foreign market opportunity assessment: County clustering and country ranking," *Industrial Marketing Management* 33, 607–617.

Child, J., S.B. Rodrigues, and J.G. Frynas (2009). "Psychic distance, its impact and coping modes: interpretations of SMEs decision-makers," *Management International Review* 49(2), 199–224.

Child, J., S.H. Ng, and C. Wong (2002). "Psychic distance and internationalization," *International Studies of Management and Organizations* 32(1), 36–56.

Chin, W.W. (1998). "The partial least squares approach to structural equation modeling," in *Modern Methods for Business Research.* Ed. G.A. Marcoulides, Mahwah, NJ: Lawrence Erlbaum Associates Publisher, 295–336.

Clark, T., and D.S. Pugh (2001). "Foreign country priorities in the internationalization process: a measure and an exploratory test on British firms," *International Business Review* 10(3), 285–303.

Diamantopoulos, A., and J.A. Siguaw, (2006). "Formative versus reflective indicators in organizational measure development: A comparison and empirical illustration," *British Journal of Management* 17(4), 263–282.

Diamantopoulos, A., and H. Winklhofer (2001). "Index Construction with Formative Indicators: An Alternative to Scale Development," *Journal of Marketing Research* 38(May), 269–277.

Dow, D. (2000). "A note on psychic distance and export market selection," *Journal of International Marketing* 8(1), 51–64.

Dow, D., and A. Karunaratna (2006). "Developing a multidimensional instrument to measure psychic distance stimuli," *Journal of International Business Studies* 37(5), 578–602.

Dow, D., and J. Larimo (2009). "Challenging the conceptualization and measurement of distance and international experience in entry mode research," *Journal of International Marketing* 17(2), 74–98.

Drogendijk, R., and A. Slangen (2006). "Hofstede, Schwartz, or Managerial perceptions: The Effects of Various Cultural Distance Measures on Establishment Mode Choices by Multinational Enterprises," *International Business Review* 15(4), 361–380.

Efron, B., and R.J. Tibshirani (1993). *An Introduction to the Bootstrap.* New York: Chapman and Hall.

Ellis, P.D. (2008). "Does psychic distance moderate the market size–entry sequence relationship?" *Journal of International Business Studies* 39, 351–369.

Ethnologue (2008). *Statistical summaries.* https://www.ethnologue.com/ethno_docs/distribution.asp?by=area. Accessed on Oct. 9 2008.

Evans, J., A. Treadgold, and F. Mavondo (2000). "Explaining export development through psychic distance," *International Marketing Review* 17(2), 164–169

Fan, T., and P. Phan (2007). "International New Ventures: Revisiting the Influences behind the 'Born-Global' Firm," *Journal of International of Business Studies* 38(7), 1113–1131.

Fornell, C. (1982). *A Second Generation of Multivariate Analysis, Vol. 1: Methods*. New York, NY: Praeger.

Fornell, C., and D. Larcker (1981). "Evaluating structural equation models with unobservable variables and measurement error," *Journal of Marketing Research* 18(February), 39–50.

Freedom House (2000). *Freedom in the World.* http://www.freedomhouse.com/uploads/FIWrank7502.xls. Accessed on Dec. 17, 2003.

Ghemawat, P. (2001). "Distance Still Matters; the hard reality of global expansion," *Harvard Business Review* 79(8), 137–146.

Gleditsch, K.S. (2003). *Modified Polity P4 and P4D Data*. http://weber.ucsd.edu/Bkgledits/Polity.html. Accessed on Dec. 17, 2003.

Gordon, R.G., Jr. (2005). *Ethnologue: Languages of the World, 15th edition.* Dallas, Tex: SIL International.

Grimes, B (ed.) (1992). *Ethnologue: Languages of the World, 12th edition*. Dallas, Tex: Summer Institute of Linguistics.

Grimes, J.E., and B.F. Grimes (eds.) (1996). *Ethnologue Language Family Index*. Dallas, TX: Summer Institute of Linguistics.

Håkanson, L., and B. Ambos (2010). "The antecedents of psychic distance," *Journal of International Management* 16, 195–210.

Hair. J.F., R. Anderson, R.L. Tatham, and W.C. Black (2006). *Multivariate Data Analysis.* Upper Saddle River, N.J.: Prentice Hall.

Hashai, N., and T. Almor (2004). "Gradually Internationalizing 'Born Global' Firms: An Oxymoron?," *International Business Review*, 13(4), 465–483.

Henisz, W.J. (2000a). "The Institutional Environment for Multinational Investment," *Journal of Law, Economics and Organization* 16(2), 334–364.

Henisz, W.J. (2000b). "The institutional environment for economic growth," *Economics and Politics* 12(1), 1–31.

Henseler, J., B. Wilson, O. Götz, and C. Hautvast (2007). "Investigating the moderating role of fit on sports sponsoring and brand equity: A structural model," *International Journal of Sports Marketing and Sponsorship* 8(4), 321–324.

Hofstede, G. (1980). *Cultural Consequences: International Differences in Work Related Values.* Beverly Hills, CA: Sage.

House, R.J., P.J. Hanges, M. Javidan, P.W. Dorfman, and V. Gupta (2004). *Culture, Leadership, and Organizations, The GLOBE Study of 62 Societies*. Thousand Oaks: Sage Publications.

Jarvis, C.B., S.B. MacKenzie, and P.M. Podsakoff (2003). "A critical review of construct indicators and measurement model misspecification in marketing and consumer research," *Journal of Consumer Research* 30(2), 199–218.

Johanson, J., and J.-E. Vahlne (1977). "The internationalisation process of the firm: a model of knowledge development and increasing foreign market commitments," *Journal of International Business Studies* 8(1), 23–32.

Johanson, J., and J.-E. Vahlne (1990). "The mechanism of internationalization," *International Marketing Review* 7(4), 11–24.

Johanson, J., and F. Wiedersheim-Paul (1975). "The internationalisation of the firm: four Swedish cases," *Journal of Management Studies* 12(October), 305–322.

Karagozoglu, N., and M. Lindell (1998). "Internationalization of Small and Medium-Sized Technology-Based Firms: An Exploratory Study," *Journal of Small Business Management* 36(1), 44–59.

Katsikeas, C.S., D.A. Skarmeas, and D.C. Bello (2009). "Developing successful trust-based international exchange relationships," *Journal of International Business Studies* 40(1), 132–155.

Knight, G. (2000). "Entrepreneurship and Marketing Strategy: The SME Under Globalization," *Journal of International Marketing* 8(2), 12–32.

Kogut, B., and H. Singh (1988). "The effect of national culture on the choice of entry mode," *Journal of International Business Studies* 19(3), 411–432.

Kostova, T. (1999). "Transnational transfer of strategic organizational practices: A contextual perspective," *Academy of Management Review* 24(2), 308–324.

Kuivalainen, O., S. Sundqvist, and P. Servais (2007). "Firms' degree of born-globalness, international entrepreneurial orientation and export performance," *Journal of World Business* 42(3), 253–267.

Lee, D.-J., and J.-I. Jang (1998). "The Role of Relational Exchange between Exporters and Importers, Evidence from Small and Medium-Sized Australian Exporters," *Journal of Small Business Management* 36(1), 12–23.

Limão N., and A.J. Venables (2001). "Infrastructure, Geographical Disadvantage, Transport Costs, and Trade," *The World Bank Economic Review* 15(3), 451–479.

Leonidou, L. (2004). "An Analysis of the Barriers Hindering Small Business Export Development," *Journal of Small Business Management* 42(3), 279–302.

Lu, J.W., and P.W. Beamish (2006). "SME internationalization and performance: Growth vs. profitability," *Journal of International Entrepreneurship* 4(1), 27–48.

Luo, Y. (2001). "Toward a cooperative view of MNC-Host government relations: building blocks and performance implications," *Journal of International Business Studies* 32(3), 401–419.

Malhotra, S., K. Sivakumar, and P.C. Zhu (2009). "Distance factors and target market selection: the moderating effect of market potential," *International Marketing Review* 26(6), 651–673.

Mathieson, K., E. Peacock, and W.W. Chin (2001). "Extending the Technology Acceptance Model: The Influence of Perceived User Resources," *The Data Base for Advances in Information Systems* 32(Summer), 86–112.

Meredith, M. (2005). *The fate of Africa- A history of fifty years of independence*, Cambridge: Perseus Books Grp.

Nordström, K.A. (1991). *The internationalisation process of the firm: Searching for new patterns and explanations.* PhD dissertation, Stockholm School of Economics.

Okeahalam, C.C., and S. Wood, 2009. "Financing internationalization: a case study of an African retail transnational corporation," *Journal of Economic Geography* 9, 511–537.

Papadopoulos, N., and O. Martín Martín (2010). "Toward a Model of the Relationship Between Internationalization and Export Performance," *International Business Review* 19(4), 388–406.

Papadopoulos, N., and O. Martín Martín (2011). "International Market Selection and Segmentation: Perspectives and Challenges," *International Marketing Review* 28(2), 132–149.

Peng, M.W., and P.S. Heath (1996). "The growth of the firm in planned economies in transition: institutions, organizations, and strategic choice," *Academy of Management Review* 21, 492–528.

Quinn, J.B. (1980). "Managing Strategic Change," *Sloan Management Review* 21(4), 3–20.

Rauch, J.E. (1999). "Networks versus markets in international trade," *Journal of International Economics* 48(1), 7–35.

Ronen, S., and O. Shenkar (1985). "Clustering countries on attitudinal dimensions: a review and synthesis," *Academy of Management Review* 10(3), 435–454.

Schwartz, S.H. (1994). "Beyond Individualism/Collectivism, New Cultural Dimensions of Values," in *Individualism and Collectivism: Theory, Methods, and Applications.* Eds. U. Kim, H.C. Triandis, C. Kagitcibasi, S.C. Choi and G. Yoon, Thousand Oaks: Sage Publications, 85–119.

Shenkar, O. (2001). "Cultural distance revisited: toward a more rigorous conceptualization and measurement of cultural differences," *Journal of International Business Studies* 32(3), 519–536.

Sousa, C.M.P., and F. Bradley (2005). "Global Markets: Does Psychic Distance Matter?" *Journal of Strategic Marketing* 13(1), 43–59.

Sousa, C.M.P., and F. Bradley (2006). "Cultural Distance and Psychic Distance: Two Peas in a Pod?" *Journal of International Marketing* 14(1), 49–70.

Sousa, C.M.P., and L.F. Lages (2011). "The PD scale: a measure of psychic distance and its impact on international marketing strategy," *International Marketing Review* 28(2), 201–222.

Stöttinger, B., and B.B. Schlegelmilch (1998). "Explaining export development through psychic distance: enlightening or elusive?" *International Marketing Review* 15(5), 357–372.

Tenenhaus M., V. Esposito Vinzi, Y.-M. Chatelin, and C. Lauro (2005). "PLS path modeling," *Computational Statistics and Data Analysis* 48, 159–205.

Tsang, E.W.K., and P.S.L. Yip (2007). "Economic Distance and the Survival of Foreign Direct Investments," *Academy of Management Journal* 50(5), 1156–1168.

Vahlne, J.-E., and F. Wiedersheim-Paul (1977) "Psychic distance: an inhibiting factor in international trade," Working paper No. 2, Centre for International Business Studies, Department of Business Administration, Uppsala University.

Welch, D.E., L.S. Welch, and R. Marschan-Piekkari (2001), "The persistent impact of language on global operations," *Prometheus*, 19(3), 193–209.

Werts, C.E., R.L. Linn, and K.G. Jöreskog (1974). "Intraclass reliability estimates: Testing structural assumptions," *Educational and Psychological Measurement* 34, 25–33.

West, J., and J.L. Graham (2004). "A linguistic-based measure of cultural distance and its relationship to managerial values," *Management International Review* 44(3), 239–260.

World Bank (2011). *World Development Indicators database, World Bank, 14 April 2011*. http://data.worldbank.org/data-catalog/GDP-ranking-table. Accessed 1 June 2011.

World Bank (2003). *World Development Indicators 2003*. World Bank Publications.

Table 1

Review of Recent and Relevant Developments of the Psychic Distance (PD) Concept (1998–2011) and Comparison to COD

Author(s)	Concept of Psychic Distance	Measurement	Empirical context	Countries included
Stöttinger and Schlegelmilch (1998)	Degree of (dis)similarity between markets	Perceptual measure (free magnitude scaling) resulting in 1) country ranking; 2) perceived distances expressed in percentages of geographical distance	Export sales volume, and export ratio of the sample firms	Distance from USA to 13 selected markets
Dow (2000)	A collection of factors indicating differences between markets	Expert-panel based instrument: senior trade government commissioners ranked 25 countries	Export market selection	Distance from Australia to 25 countries
Evans and Mavondo (2002)	Perceived cultural and business differences between markets	Perceived degree of (dis)similarity with respect to home market for a broad set of dimensions	Organizational performance	Several, not disclosed, but all industrialized
Sousa and Bradley (2005) and Sousa and Bradley (2006)	Perceived degree of similarity or difference between home and host market	Perceived degree of (dis)similarity on a broad set of dimensions	Perceived adaptation of marketing strategy	Distance from Portugal to unknown host countries
Dow and Karanuratna (2006)	Psychic distance stimuli based on 'actual' country differences affect perceptual PD	Seven sets of stimuli (language; education level; industrial development; political systems; religion; time zone; colonial ties) plus cultural differences (Hofstede)	Trade flows between pairs of countries	38 country pairs (for which Hofstede data available)
Brewer (2007)	PD is the inverse of the availability of market information	Psychic Distance Index: 15 formative indicators capturing seven dimensions	International market selection	Distance from Australia to 25 selected countries
Ellis (2008)	PD is a proxy of information acquisition costs	Informants were given two definitions of psychic distance and asked to rate each country on a scale from 1 to 100	Foreign market entry	Distance from China to 55 foreign markets
Katsikeas, Skarmeas, and Bello (2009)	PD between trading partners is the exchange difficulties encountered in international exchange transactions	A five-item scale reflecting the extent to which the operating environments of the importer and exporter differ in terms of traditions, values, language, accepted business practices, economic conditions, legal system, and communications infrastructure	Import–export relationships	Foreign supplying partners of the importers located in 32 countries, primarily from the EU, North America and the Far East
Håkanson and Ambos (2010)	PD is the subjectively perceived distance to a given foreign country	Respondents were given a definition of psychic distance and asked to rate each country on a scale from 0 to 100	Determinants of psychic distance	Distance from each of the 25 largest economies to the other 24
Sousa and Lages (2011)	The individual's perceived differences between the home and the foreign country. A higher-order construct composed of two dimensions: country distance and people distance	The country distance includes indicators of economic and industrial development levels; communications infrastructure; marketing infrastructure; technical requirements; market competitiveness; and legal regulations. People distance encompasses per capita income; consumer purchasing power; lifestyles; consumer preferences; level of literacy and education; language; and cultural values, beliefs, attitudes and traditions	Foreign markets and adaptation of international marketing strategies	Distance from Portugal to the firm's most important foreign market
COD (2011)	Socio-economic development, "physical" and cultural and historical differences between countries	Two second-order dimensions of COD (socio-economic development distance and cultural and historical distance) and seven first-order constructs (educational, democratic and economic development; physical, and language, religion and colonial distance)	SMEs' international market selection, export flows	Distance from Spain to 99 countries worldwide

Table 2

Constructs, Indicators, Data Sources and Labels

Construct/ Indicator	Source	Label
Educational distance		**EDU**
Difference in % adult literacy between countries	United Nations	ED1
Difference in % in second-level education between countries	United Nations	ED2
Difference in % in third-level education between countries	United Nations	ED3
Democratic distance		**DEM**
Difference in POLCON between countries	Henisz's (2000b) POLCON scale	D1
Difference in Modif POLITY IV between countries	Gleditsch's (2003) POLITY IV scale instrument (Gleditsch, 2003)	D2
Difference in Freedom House Political Rights between countries	Freedom House (2000)	D3
Difference in Freedom House Civil Liberties between countries	Freedom House (2000)	D4
Economic development distance		**ECO**
Difference in GDP per capita between countries	United Nations	EC1
Difference in energy consumption (equiv. kg coal per capita) between countries	United Nations	EC2
Difference in cars per 1000 people between countries	United Nations	EC3
Difference in % non-agricultural labor between countries	United Nations	EC4
Difference in % urban population between countries	United Nations	EC5
Difference in newspapers per 1000 people between countries	United Nations	EC6
Difference in radios per 1000 people between countries	United Nations	EC7
Difference in phones per 1000 people between countries	United Nations	EC8
Difference in TV per 1000 people between countries	United Nations	EC9
Socio-economic development distance[a]		**SED**
LVS (Latent Variable Scores) for Educational distance	Latent Variable Scores	SED1
LVS for Democratic distance	Latent Variable Scores	SED2
LVS for Economic development distance	Latent Variable Scores	SED3
Physical distance		**PHD**
Time zone differential between countries (hours)	www.timeanddate.com	PHD1
Geographical distance between countries (Km from capitals)	www.chemical-ecology.net	PHD2
Language distance		**LANG**
Distance between major languages of countries	Grimes and Grimes (1996)	L1
Incidence of i's major language in j	Ethnologue (Gordon 2005)	L2
Incidence of j's major language in i	Grimes and Grimes (1996)	L3
Distance between religions		**REL**
Distance between major religions	Barrett (1982)	R1
Incidence of i's major religion in j	Barrett (1982)	R2
Incidence of j's major religion in i	Barrett (1982)	R3
Colonial distance		**COL**
Colonial ties (post-1650 colonial link between countries)	Barraclough, G. (1988)	**C1**

Table 2 (CONT.)

Constructs, Indicators, Data Sources and Labels

Construct/ Indicator	Source	Label
Cultural and historical distance		**CHD**
LVS for Language distance	Latent Variable Scores	CHD1
LVS for distance between religions	Latent Variable Scores	CHD2
LVS for Colonial distance	Latent Variable Scores	CHD3
International Market Selection		**IMS**
Importance of selection (market importance of the first four markets in terms of exports percentage)	Survey data	IMS1
Frequency of selection (frequency with which a country is among the first four markets entered)	Survey data	IMS2
Market size		**MS**
Gross National Income (GNI) (in millions of current USD)	The World Bank (WDI, 2003)	GNI
Gross Domestic Product (GDP) (in millions of current USD)	The World Bank (WDI, 2003)	GDP

Table 3

Reliability and Average Variance Extracted for the Reflective Constructs

Construct/ Indicator	Item reliability Loading	Construct reliability Composite reliability	Convergent validity *AVE*
Educational distance		0.92	0.79
ED1	0.86		
ED2	0.90		
ED3	0.90		
Democratic distance		0.97	0.89
D1	0.90		
D2	0.96		
D3	0.97		
D4	0.95		
Economic development distance		0.96	0.73
EC1	0.82		
EC2	0.76		
EC3	0.91		
EC4	0.88		
EC5	0.79		
EC6	0.80		
EC7	0.87		
EC8	0.94		
EC9	0.90		
Socio-economic development distance		0.93	0.81
SED1	0.93		
SED2	0.85		
SED3	0.91		
Physical distance		0.93	0.87
PHD1	0.88		
PHD2	0.99		
Language distance		0.95	0.86
L1	0.91		
L2	0.93		
L3	0.94		
Distance between religions		0.95	0.86
R1	0.92		
R2	0.91		
R3	0.96		
Cultural and historical distance		0.89	0.73
CHD1	0.92		
CHD2	0.78		
CHD3	0.86		
International Market Selection		0.89	0.80
IMS1	0.93		
IMS2	0.87		
Market size		0.99	0.98
GNI	0.98		
GDP	0.99		

Table 4

Discriminant Validity: First Order Latent Variables Correlations and Square Root of the Average Variances Extracted[a]

Construct	EDU	DEM	ECO	PHD	LANG	REL	COL	IMS	MS
EDU	**0.89**								
DEM	0.67	**0.96**							
ECO	0.82	0.65	**0.85**						
PHD	0.14	0.05	0.22	**0.93**					
LANG	-0.01	0.22	-0.02	-0.26	**0.93**				
REL	0.39	0.55	0.34	0.14	0.51	**0.93**			
COL	-0.04	0.16	-0.11	-0.34	0.88	0.39	**1**		
IMS	-0.43	-0.38	-0.40	-0.25	-0.36	-0.36	-0.28	**0.90**	
MS	-0.28	-0.20	-0.39	0.06	0.01	-0.02	0.05	0.33	**0.99**

[a] Diagonal values in bold are the square root of the variance shared between the reflective constructs and their measures. In order to achieve discriminant validity diagonal elements must be larger than off-diagonal.

Table 5

Selected Country Scores on the Country Distance Index and its Dimensions[a]

CHD			PHD			SED			COD index		
Ranking		**Scores**	**Ranking**		**Scores**	**Ranking**		**Scores**	**Ranking**		**Scores**
1	Argentina	1.00	1	Portugal	1.00	1	Canada	1.00	1	Italy	1.00
1	Chile	1.00	2	France	1.42	2	USA	1.83	2	Switzerland	10.78
1	Colombia	1.00	3	Algeria	1.83	3	Australia	10.31	3	France	12.68
1	Costa Rica	1.00	4	Switzerland	1.85	4	Finland	12.48	4	Belgium	14.28
1	Mexico	1.00	5	Luxembourg	2.40	5	Norway	12.65	5	Netherlands	18.03
1	Venezuela	1.00	6	Belgium	2.55	6	Denmark	12.73	6	Austria	18.52
7	Ecuador	4.33	7	Italy	2.78	7	New Zealand	13.15	7	Luxemburg	18.74
7	El Salvador	4.33	8	Netherlands	3.25	8	Netherlands	13.79	8	Germany	19.54
7	Peru	4.33	9	Slovenia	3.74	9	France	14.82	9	Portugal	19.83
10	Uruguay	4.45	10	Morocco	3.97	10	Japan	14.82	10	Denmark	20.32
11	Panama	7.78	11	Malta	4.04	11	Germany	14.98	11	Norway	20.80
12	Guatemala	7.81	12	Croatia	4.16	12	Italy	16.54	12	Canada	21.24
13	Italy	31.21	13	UK	4.21	13	Austria	16.87	13	Venezuela	21.44
14	Philippines	37.57	14	Libya	4.25	14	Belgium	17.15	14	Uruguay	21.75
15	Switzerland	49.98	15	Czech Republic	4.48	15	Sweden	17.43	15	Argentina	21.88
20	France	56.87	18	Germany	4.91	17	UK	18.54	17	USA	23.97
22	Portugal	56.87	64	USA	34.11	24	Portugal	29.80	18	UK	24.04
25	USA	59.87								…	…
34	Germany	66.68							98	China	94.14
55	UK	72.81							99	Myanmar	100.00

[a] The six main export markets of the SMEs in the sample are highlighted in grey.

Figure 1

Model and Hypothesized Relationships

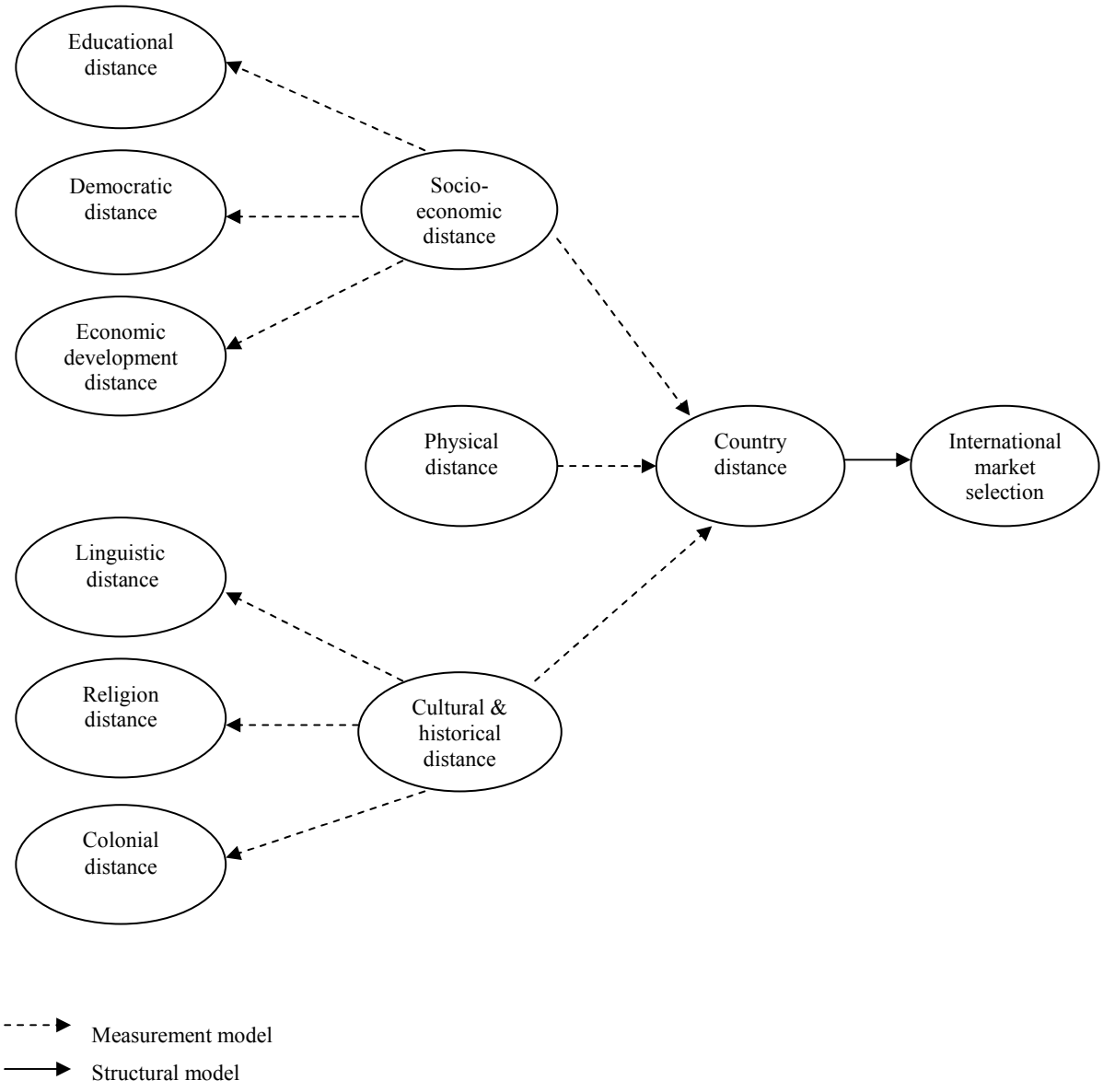
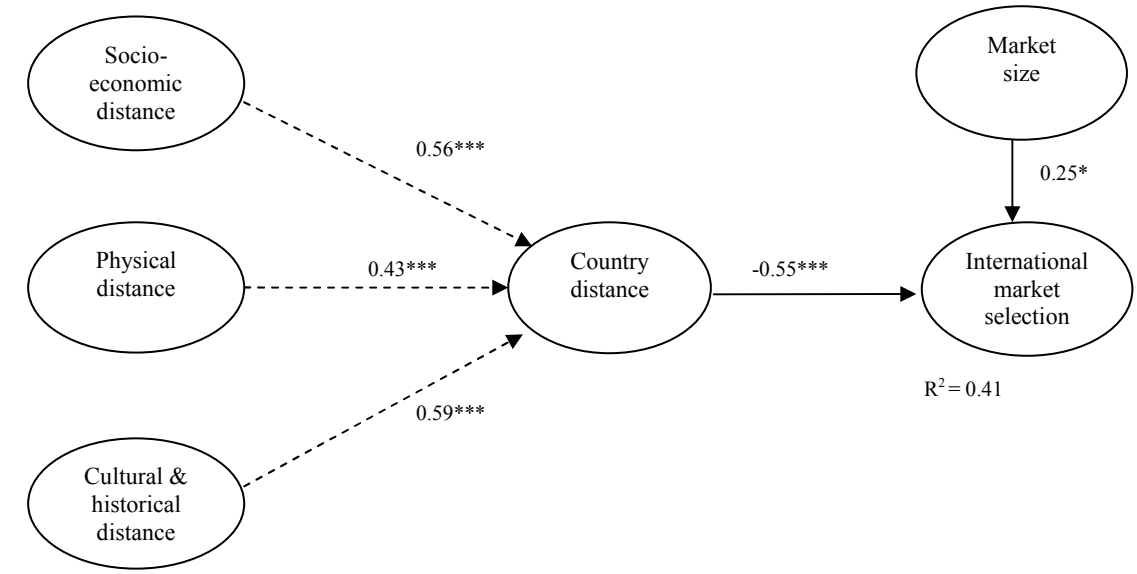


Figure 2

SMEs' International Market Selection: Contributions, Structural Paths, and Variance Explained



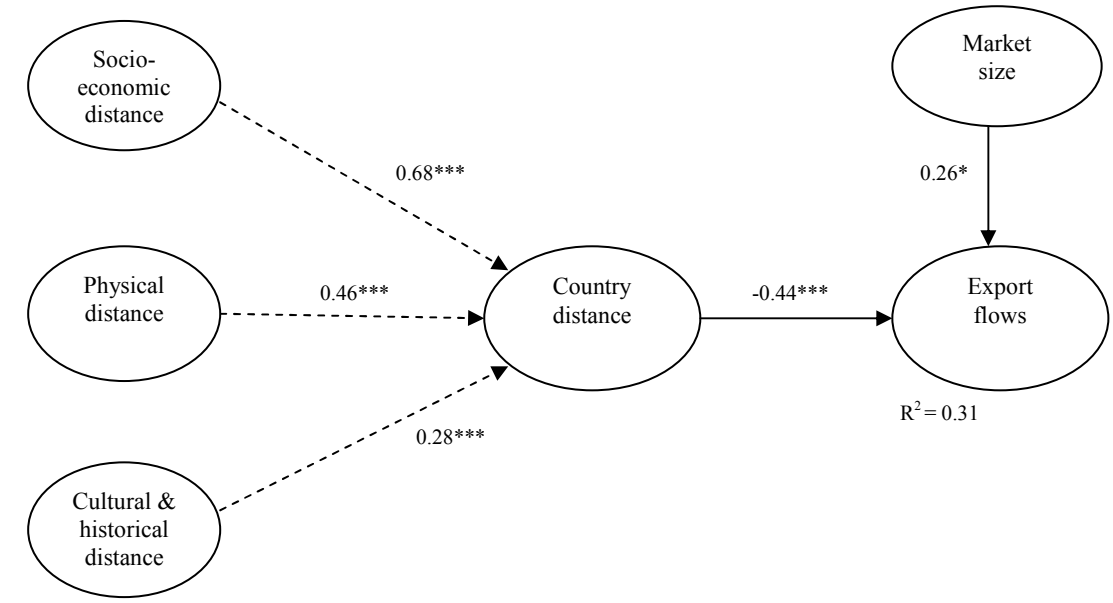
*** $p < 0.001$ (based on a Student $t_{(499)}$ distribution with one tail).

Measurement model

Structural model

Figure 3

Export Flows: Contributions, Structural Paths, and Variance Explained



*** $p < 0.001$ (based on a Student $t_{(499)}$ distribution with one tail).

Measurement model

Structural model

Appendix 1

List of 99 Countries Included in the Analyses

Algeria	India	Poland
Argentina	Indonesia	Portugal
Australia	Iran	Romania
Austria	Iraq	Russian Federation
Bangladesh	Ireland	Saudi Arabia
Belgium	Israel	Serbia
Brazil	Italy	Sierra Leone
Bulgaria	Jamaica	Singapore
Canada	Japan	Slovakia
Chile	Kenya	Slovenia
China	Korea, Dem. People's Rep.	South Africa
Colombia	Korea, Republic of	Sri Lanka
Congo, Dem. Rep. of	Kuwait	Sudan
Costa Rica	Latvia	Suriname
Cote d'Ivoire	Lebanon	Sweden
Croatia	Libyan Arab Jamahiriya	Switzerland
Czech Republic	Lithuania	Syrian Arab Republic
Denmark	Luxembourg	Taiwan
Ecuador	Malaysia	Tanzania, United Rep. of
Egypt	Malta	Thailand
El Salvador	Mexico	Trinidad and Tobago
Estonia	Morocco	Turkey
Ethiopia	Mozambique	Uganda
Fiji	Myanmar	Ukraine
Finland	Nepal	United Arab Emirates
France	Netherlands	United Kingdom
Germany	New Zealand	United States of America
Ghana	Nigeria	Uruguay
Greece	Norway	Uzbekistan
Guatemala	Pakistan	Venezuela
Hong Kong	Panama	Vietnam
Hungary	Peru	Yemen
Iceland	Philippines	Zambia